

FIBROMATA OF THE TUNICA VAGINALIS.¹

BY EDWARD A. BALLOCH, M.D.,

OF WASHINGTON, D.C.,

Assistant Professor of Surgery in Howard University; Surgeon to Freedmen's Hospital.

THE case which forms the basis of this communication is as follows:

C. D., colored, male, sixteen years of age, and a farmer by occupation, entered the Freedmen's Hospital, December 9, 1902. He gave the following history: Was born and has always lived in the country. Father living and healthy. Mother died in 1890, the cause of death being unknown. Eleven brothers and seven sisters living and healthy. Two sisters dead of unknown causes. Patient himself has always been healthy, having escaped even the usual diseases of childhood. Does not use alcohol. When questioned as to his venereal history, he at first stated that in 1884 he had a yellowish discharge from the penis, followed by an abscess in right groin, which statement he afterwards denied. When it is considered that at that time he would have been but eight years old, it is probable that the discharge, if indeed he had one, was not gonorrhoeal. No history of any injury to scrotum. The present trouble began over eight years ago. First appeared as a swelling in the upper part of right side of the scrotum, which has continued to enlarge ever since. The growth has been painless. There has never been any enlargement of the scrotum except that caused by the growths. The only inconvenience suffered has been that incident to the size of the growths and some pain after heavy lifting or over-exertion.

Examination shows a greatly enlarged scrotum, reaching nearly to the knees. It is somewhat pyriform in shape, with the apex below. Skin of scrotum shiny from stretching, but otherwise normal. Veins of scrotum prominent. Right testicle felt at a point twenty centimetres (eight inches) below external inguinal ring and is normal in size, shape, and consistence. The

¹ Read before the Southern Surgical and Gynecological Association, December 17, 1903.

cord can be traced to the external ring. Left testicle ten centimetres (four inches) below external ring and feels normal in every way. The scrotum is not tense and does not contain fluid. The tissues of the scrotum have a flabby, gelatinous feel, which is peculiar. Three separate masses can be felt in the right side of the scrotum. One is high up, near external ring; the others lying diagonally from it downward and to the left. All are freely movable. No point of attachment can be made out, either to the testicle, cord, or walls of the scrotum. The upper mass is smooth and even; the other two are lobulated. The lower growth feels somewhat larger than the others. All are hard and dense to the feel. Owing to his conflicting statements as to a urethral discharge, with abscess, the groins were carefully searched for old scars, with an absolutely negative result. A keloid was found behind the right ear, the result of an old cut in that situation, six centimetres (two and one-half inches) long. Thoracic and abdominal viscera normal.

The diagnosis was fibroid growths in the tunica vaginalis. This was based partly on the history of a slow, painless growth; the absence of any glandular involvement and the freedom of the patient from cachexia of any kind. These points, with the absence of ulceration or fistula, served to exclude tuberculosis, syphilis, and malignant disease, while the hard, dense, lobulated feel of the growths, together with the presence of keloid, indicated a positive diagnosis of fibroma.

Operation, December 15, 1902.—Incision in right side of scrotum down to the growths. The tunica vaginalis was greatly enlarged and thickened and was converted into a gelatinous mass. The upper tumor ran into the inguinal canal and was attached there by a pedicle. For the other two no distinct points of attachment could be made out. They seemed to be embedded in the thickened tissues of the tunic. All the growths were enucleated without difficulty. In dissecting out the gelatinous tunica, the cord on the right side was cut accidentally, and, together with the testicle on that side, was removed. This accident was deplored at the time, but, in view of the report of the pathologist, it is perhaps as well that these structures were removed. The excess of skin in the scrotum was cut away and the wound closed without drainage. Healing was aseptic and uneventful. The largest growth measured thirteen by eight centimetres (five by three

inches), and the other two, ten by six centimetres (four by two and one-half inches). The weight of the entire mass, tumors and tunic, was 1644 grammes (fifty-eight ounces). The tumors alone weighed 1077 grammes (thirty-eight ounces) and the tunica 567 grammes (twenty ounces). (See Fig.)

I have recently heard from the boy to the effect that he was in perfect health and strength.

The report of the pathologist was that the main structure of the tumors was fibrous tissue. At many points throughout the masses were areas of myxomatous and fatty degeneration. The tunica vaginalis was myxomatous throughout. The testicle also showed areas of myxomatous degeneration. He classed the tumors as soft fibromata undergoing degeneration.

In considering these unusual growths, it must be accepted, I think, that they are essentially fibrous in character, and that the fatty and myxomatous areas are but expressions of the degenerations which fibrous growths anywhere are liable to undergo. This association of fibroma with myxoma and lipoma has been noted in fibrous growths in various situations, and is a well-recognized pathologic fact.

As to the etiology of these tumors, it is probable that, in spite of the absence of any such history, there must have been some injury or irritation which acted as a starting-point. The vague history of a urethral discharge may explain this. It is notoriously difficult in people of his race to get anything like a connected or reliable history. It is hard to conceive of the spontaneous origin of growths like these from the tunica vaginalis. Another factor of some importance is the existence of the keloid in this case. This may reasonably be interpreted as showing a tendency to fibromatosis in this individual.

The writer has elsewhere¹ called attention to fibroid degeneration as a peculiarity of the negro race, and offers this case as a confirmation of the theory there advanced.

It may be of advantage for purposes of comparison to consider for a moment the occurrence of fibrous growths in some of the other serous cavities. Fibromata have been found in the pleura, the peritoneum, the pericardium, and the joint



Fibromata of the tunica vaginalis.

cavities. In the pleura and peritoneum these growths have been found loose. It has been supposed that they existed first as fibrous elevations on the surface of the membrane, originating in the subserous connective tissue; then became pedunculated, and, finally, by the constriction and severance of the pedicles, became loose, floating bodies.

Myxomatous peritonitis, while rare, does exist and gives rise to masses of gelatinous, straw-colored material, which may be scooped out of the cavity and may be mixed with fibrin. This is secreted by the peritoneal endothelium and is generally secondary.

That some such course of events must have occurred in this case seems likely, owing to the extensive myxomatous degeneration of the tunica vaginalis. The entire membrane was converted into a gelatinous mass, resembling the Whartonian jelly of the umbilical cord. This, however, does not explain the like degeneration in the testicle. From the limited areas of degeneration, it is reasonable to assume that the disease in the testicle was secondary, and that it may have resulted by continuity.

A careful consideration of all the facts in this case would seem to indicate the following chain of events: An irritation of the tunica vaginalis, from an injury or a possible gonorrhœa, causing a myxomatous degeneration of that membrane. The consequent irritation of the subserous connective tissue resulted in the formation of fibrous nodules, which gradually became pedunculated, and finally, in the case of two of them, resulted in their becoming free in the cavity, the third being still attached to the membrane. The myxomatous degeneration of that part of the tunic overlying the testicle may have resulted in a similar degeneration in that organ.

A case reported by Curling² shows that this supposition is not improbable. Curling's patient was a man of twenty-four years, in whom the disease had existed for eighteen months. The cavity of the tunica was found to be distended by yellowish, morbid material, resembling fibroid matter, growing from the visceral surface of the tunic. It was lami-

nated in structure and of a fibroplastic appearance under the microscope. The external parts of the deposit were organized. Patches of a similar structure were found in the testicle, and the epididymis was infiltrated and destroyed.

Had this case gone on long enough, it is probable that a condition similar to that found in my case would have resulted.

A thorough examination of the literature on this subject shows that the case here reported is practically unique, but one other at all resembling it being found. There are several references to what, at first sight, seem to be similar growths, but which upon closer examination turn out to be essentially different in important particulars. Most of them are found to be cases of cartilaginous or calcareous degeneration of the tunic following syphilis or prolonged suppuration in the scrotum of the testicle.

The case referred to as resembling mine is that of Holmes.³ His patient was a man of fifty-one years, who had had a tumor of the scrotum for thirty-three years. At the time that it came under Holmes's observation it was as large as a cocoanut; but it was stated that recently the growth had been more rapid, and that it had become more painful. At the operation it was found to be situated above the testicle and in front of the cord. It was removed and was found to be "solid, with soft spots." It was connected to the testicle by some areolar tissue, and was thought to spring from the tunica vaginalis. On section, it presented a grayish mass with glistening bands radiating in all directions. The centre was soft. Under the microscope it showed fibrous tissue, free nuclei, and oil globules.

In the same volume, Jessop⁴ reports a case of tumor of the left side of the scrotum in a man of forty-nine years, which had existed for ten months and was the size of a child's head. The tunica contained fluid. The testicle is reported as "obscured," whatever that may mean. Microscopic examination showed areolar tissue. The tumor had grown rapidly, owing to an infiltration of albuminous fluid. Pathological report was to the effect that the elementary parts of the tumor belonged to

the connective-tissue group, the structure varying in different situations. Some parts showed waxy-white connective-tissue network, enclosing fat cells. The report closes by saying that the tumor showed characteristics of "lipoma, fibroma, and sarcoma."

It may be said of this case that the pathological report, like the testicle, is "obscured," but that, while very imperfectly reported, it resembles more nearly than anything else a sarcoma of the testicle.

E. Chambord,⁵ in his thesis, "*Étude sur l'anatomie et la pathologie de la tunica vaginale*," which is an exhaustive study of the subject, makes no reference to fibrous tumors of the tunic, except the "floating bodies" that sometimes occur after hydrocele which has been treated by injections of iodine.

Tikhonovich⁶ reports the case of a man of twenty-four years, who entered the hospital complaining of pain in left testicle. Seven years before, while hewing wood, had struck left testicle with the handle of an axe. Painless tumors soon appeared on the postero-external surface and had grown gradually to their present size. On palpation, left testicle of normal consistency; larger than right. On antero-interior surface are felt tumors, varying in size from a lentil seed to a large pea. The tumors are movable in relation to both testicle and scrotum. On upper part of testicle, where the epididymis is normally situated, is a tumor, size of a large hazel-nut, knotty, irregularly spherical. It is movable and is sharply distinguished from testicle and scrotum. Spermatic cord, which feels normal, runs into tumor. Operation showed that the small tumors were in the tunica vaginalis, covering the epididymis and upper part of testicle, while the large tumor was separate. As the vas deferens was involved with the smaller tumors, the testicle was removed. Upon examination, two nodules, size of lentil seeds, were found in the testicle itself, in addition to those recognized before operation. Microscopic examination showed fibrillar connective tissue running in bundles throughout the entire tumor, with spindle and round cells; the latter most marked along the course of the vessels.

Reclus⁷ and Melchior⁸ report cases of small, floating

bodies in the tunic following hydrocele treated by irritating injections. Quite recently, in operating on an old case of hydrocele, I myself dissected out a thickened tunic which was studded with small, fibrous nodules. In this case there was no history of previous treatment by injections. These cases, while hardly analogous to the one under discussion, are yet of interest as showing the importance of irritation as a factor in the production of these growths.

The following conclusions may be drawn:

1. That, like other serous cavities, the cavity of the tunica vaginalis may be the seat of fibrous growths.

2. That irritation is an important factor in their production.

3. That they spring originally from the subserous connective tissue, but may become detached and lie loose in the cavity.

4. That they are mostly of the variety known as soft fibroma.

5. That they are prone to myxomatous and fatty degenerations.

6. That the testicle may be affected by the same forms of degeneration.

7. That the growths are generally minute, the present case being unique both as to the number and the size of the tumors.

8. That excision is the only effectual remedy.

9. That, as the testicle is liable to be affected, the propriety of removing it with the growths should be considered.

BIBLIOGRAPHY.

¹ Balloch. Relative frequency of fibroid processes in the dark-skinned races, *Medical News*, January 13, 1894.

² Curling. *Transactions of the Pathological Society of London*, Vol. xx, p. 249.

³ Holmes. *Ibid.*, p. 247.

⁴ Jessop. *Ibid.*, p. 249.

⁵ Chambord. Thesis, Montpellier, 1864.

⁶ Tikhonovich. *Khirurgia*, Mosk., x, 630.

⁷ Reclus. *Bull. Soc. Anat. de Paris*, 1875, i, 327.

⁸ Melchior. *Gazz. Med. Ital. Lomb.*, Milan, 1852, p. 51.